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THE BOTANICAL ACTIVITIES OF PAUL BARTSCH
(1871-1960)

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For many years, the flora of the District of Columbia and vicinity has been a continuing interest of various botanists in the U. S. National Museum. As a result, a separate "District Herbarium" has been maintained which has served as the reference point for all studies of the local flora and vegetation. A. S. Hitchcock and P. C. Standley based their 1919 *Flora of the District of Columbia and Vicinity* on this herbarium. In a more recent cycle of floristic activity, begun in the 1940's and stimulated in large part by Egbert H. Walker, then a curator in the U. S. National Herbarium to which the District Herbarium belongs, the collection was expanded to serve as the basis of *A Checklist of Plants in the Washington-Baltimore Area*, by F. J. Hermann (ed. 2, 1946).

Since assuming curatorial responsibility for the District Herbarium several years ago, the junior author has tried to encourage additions to it. In 1962, Dr. Elizabeth Parker Bartsch, widow of the late Dr. Paul Bartsch, kindly donated Dr. Bartsch's personal herbarium to the Smithsonian Institution. The collection numbered approximately 5,000 specimens, and most of these had come from areas around Washington,

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D.C. This represented the most significant addition to the District Herbarium in recent years. It was all the more significant because most of the collecting had been done shortly after the turn of the century before so many of the once-fascinating natural areas around Washington had given way to concrete and steel.

The present collaboration with the senior author, who has carried the main burden of sorting, labeling, and identifying these specimens, has finally made it possible to prepare the Bartsch Herbarium for permanent preservation in the District Herbarium and to distribute some of the duplicates. This paper, based on Bartsch's collection, on available literature and records, and on personal recollections of those who knew and worked with him, discusses briefly his plant collecting activities stretching over more than half a century. Bartsch's collections are also evaluated for their overall significance, and an annotated list of his major collecting localities is appended. This information, we hope, will contribute to our historical knowledge of floristic activities in the Washington area.

Paul Bartsch was a world-renowned malacologist who for 32 years (1914-1946) was Curator of the Division of Mollusks, U. S. National Museum. He was also something of a celebrity and legend in the Washington area for his civic-minded role, as a sort of naturalist-at-large, in the public life of the city. A naturalist of the old school, Bartsch seemed to know everything that grew or crawled and often wandered far afield from his principal specialty in the course of his numerous explorations and researches. During his boyhood days in Germany (1871-1882), he developed an avid interest in birds, and later, after his family had emigrated to Iowa, he pursued the study of ornithology, writing the "Birds of Iowa" for his master's thesis (1899). He never really abandoned ornithology, and published many significant papers on birds during his lifetime. His efforts at scientific bird-banding in 1902 are said to be the first attempts in North America since the abortive attempts of John James Audubon. It was Bartsch's doctoral research on the zoogeography of the East Pacific Pyramidellidae, completed over a period of nine years at the National Museum, which finally turned his prime attention from birds to mollusks. This won him a Ph.D. in absentia from the State University of Iowa (1905), where previously he had earned his bachelor's and master's degrees, the latter also in absentia. Even after this, ornithology, of all his pursuits, seems to have remained the closest to his heart throughout his life.

Whatever his pursuit, Bartsch was a tireless collector and writer. Barnes (1953, p. 128) put it well when he wrote:

Field explorations were a part of his daily life, and they did not need to involve mollusks and marine biology: the goal might be spring migrants, ferns of the Blue Ridge, the plant and animal life of the Dismal Swamp, or almost any living laboratory exhibiting natural laws at work.

His extensive expeditionary work took him to virtually every island in the West Indies and on one long, particularly memorable trip to the Philippines (1907-08). He went there while serving as Smithsonian naturalist aboard the *Albatross*, a vessel of the U. S. Bureau of Fisheries, celebrated for its many voyages of exploration. This was Bartsch's only expedition to the Pacific Islands. Altogether, Bartsch published more than 450 scientific papers during his life, mostly on birds and mollusks. He also wrote many popular articles on natural history.

Among Bartsch's lesser known pursuits was his life-long interest in plants. As a college freshman at the State University of Iowa, he prepared a paleobotanical report for the U. S. Geological Survey, under the direction of Professor Thomas H. Macbride, who later became President of the University. This report resulted in what can be regarded as his first scientific paper, "Notes on the Cretaceous Flora of Western Iowa."² His few previous articles were little more than popular notes on bird-watching. Ironically, this was his first and last scientific paper on botany, although he later wrote botanically slanted popular articles and often mentioned plants in papers concerned primarily with zoological subjects, as in his paper, "A Trip to the Dismal Swamp" (*The Osprey* 5: 12-19. 1901).

Bartsch began to collect plants and build up a personal herbarium while he was still an undergraduate student in Iowa City. He collected widely in Iowa, reaching into Allamakee, Clayton, Davis, Des Moines, Dubuque, Jackson, Johnson, Lee, Muscatine, Scott, Winneshiek, and probably other counties. Many of these first collections were carefully identified and labeled with printed labels, and some specimens were even mounted. The Iowa collecting was all done in 1895. The next year he moved to Washington, D.C., to accept a position at the National Museum, and he was instantly fascinated by the different plants of the Piedmont and Coastal Plain, beginning at once to collect. His

² Bulletin from the Laboratories of Natural History of the State University of Iowa 3 (4): 178-182. 1896. Dr. Harold A. Rehder, U. S. National Museum, who has access to Bartsch's own card file of all Bartsch's publications, makes this interesting comment about Bartsch's paleobotanical publication: "The story that he published a paper on the 'Fossil Flora of the Sioux Quartzite' in 1896 is one that has appeared in print several times [e.g., Barnes 1952, p. 219], but it appears to be without foundation although Bartsch believed it to be a fact, at least in his later years, for this statement appears in unpublished memoirs. The Sioux Quartzite is a Pre-Cambrian formation that is highly metamorphosed." [Only a few primitive fossil plants have been documented from Pre-Cambrian rocks in recent years.]

subsequent botanical collecting was confined largely to the District area despite his many long expeditions to faraway places. The largest plant collection he made on any of these expeditions was made in connection with the *Albatross* voyage when he brought back about 1,100 specimens (Nos. 1-542), with duplicates. The great majority of these (Nos. 112-169, 208-542) came from the Philippine Islands, and most of them were ferns, especially tree ferns. This Philippine collection made an important addition to the fern herbarium of the U. S. National Herbarium. Small collections, again mostly ferns, were also made on the Hawaiian Islands (Nos. 1-88), Midway Island (Nos. 89-96), Guam (Nos. 97-111), and North Borneo (Nos. 170-207). On occasion one to several specimens were brought back from his West Indian travels, but his plant collecting in the Caribbean region was trivial, confined essentially to bringing back a few live cacti now and then for J. N. Rose to culture in the National Herbarium greenhouse. Altogether, scarcely more than a dozen plants, collected by him in the Bahama Islands, Cuba, and Martinique, have been accessioned and preserved in the National Herbarium over the years.

Bartsch's expeditionary collections were always placed in the Division of Plants (now Department of Botany) at the Museum promptly after he returned from the field, but Bartsch presented very few of his District area and other United States collections to the Museum during his lifetime. The accession records in the Department of Botany and the annual reports of the U. S. National Museum show a trickle of gifts of 1-20 specimens at a time from the District of Columbia, Virginia, North Carolina, Indiana, Illinois, and Iowa, during only a few of his many years at the Museum. However, he was collecting hundreds of specimens locally during that time. Undoubtedly, most of these local plants were collected on his personal time, unlike the expeditionary collections, and he probably regarded his local plants as personal property. Still, this is hardly an adequate explanation. Perhaps he harbored a certain natural jealousy for his local herbarium because of its special value at the time and entertained hope of some day doing serious scientific work on these plants. At the turn of the century when he was most active in his plant collecting, serious students of the local flora had only the much outdated *Guide to the Flora of Washington and Vicinity*, by L. F. Ward (1881), and a number of supplements (see our bibliography) for botanizing. The *Guide* lacked keys and left much to be desired as a manual. New additions to the known list of local species were being made regularly by various other collectors, and Bartsch may have been competing in the friendly race, perhaps even having ambitions of revising Ward's *Guide*. In any event, the majority of his local collections were made between 1896 and 1917, but primarily during the first 10 years of this period and again in 1917, and this entire period was prior to the year (1919) when the new *Flora* by Hitchcock and Standley appeared. The significance of this observation is discussed below.

During his early years at the Smithsonian, Bartsch's intensive in-

terest in both the local flora and fauna was well known, and he was given the chief responsibility for the creation of the so-called "District Rooms" in the new Museum of Natural History, opened in 1911. The idea had been largely his. The rooms contained public displays of local birds, animals, and plants. It was characteristic of Bartsch that he did not consult anyone in the Division of Plants concerning the plant display. This exhibit was retained long after it was outmoded and was finally dismantled in the 1950's. The last of these local exhibits, the much antiquated bird exhibit, remained in place until early 1965.

Outside the immediate environs of Washington, Bartsch took a special interest in the plants of Dismal Swamp and the Blue Ridge Mountains, both in outstate Virginia, and his herbarium, as it came to the Smithsonian, included upwards of a thousand specimens, principally ferns, from these two regions but especially the Blue Ridge. During some years, summer vacations were spent in the Blue Ridge near the town of Paris, and this fact may account for his Blue Ridge interest. Many mosses were also collected here. He personally concentrated on ferns all his life, as witness also his Philippine and later his "Lebanon" (see below) activities, and he encouraged his first wife to take a special interest in mosses. She was the principal if not the sole collector of his several hundred moss specimens. In addition to his Blue Ridge and Dismal Swamp efforts, token collections were made elsewhere beyond the local area. In Maryland, sizable collections of vascular plants were made around Annapolis. Small fern and lycopod collections from Alabama (1907), Minnesota (1907), Tennessee (1907), Wisconsin (1907), Maine (1910, 1914), and New York (1916)—to name the most obvious—were among his herbarium specimens. The remaining Iowa collections, made in 1895 from localities already mentioned, numbered several hundred. Finally, on a trip to Sweden in 1908, Bartsch, fascinated by the boreal and subarctic flora around Falun, collected a token herbarium.

Returning to his local activities, we find that favorite collecting areas were: Beltsville Bog, Benning, Falls Church, Four-Mile Run, Burnt Mills, South River, Patuxent River, Rock Creek, Great Falls, Chain Bridge, Receiving Reservoir, Aqueduct Bridge, High Island, Potomac Flats—the Potomac River region in general—and Congress Heights (see appended list). Local transportation then was mostly by trolley or train, and his stations tended to be along the various track lines that radiated out of the city. Bartsch took credit, at least implicitly, for nearly all of his herbarium. A few 1917 collections are credited to his son Henry, and a few specimens bear the names of others, such as the specimens labeled "*Ex Herb. F. L. J. Boettcher.*" Since he is known to have collected in the company of students and colleagues, it must be assumed that he often had help. The case of the mosses has already been mentioned, and it seems likely that he may have absorbed the collections of still others into his herbarium. In particular, there is a high likelihood that some of the plants of the avid local collector Julius Ulke were appropriated by Bartsch.

Although Bartsch moved to Washington in 1896 to take up research on mollusks at the U. S. National Museum, as assistant to William H. Dall, then Curator of the Division of Mollusks, he soon became involved in college teaching in the city. In 1899, he began teaching animal histology in the medical school of Howard University, continuing for 37 years, and a year later became an instructor in zoology at George Washington University, where, before long, he introduced coursework in botany. Later (1912) he was responsible for initiating a graduate program in the natural sciences at George Washington. He taught zoology here until 1945 but gave up teaching botany relatively early. His ornithology classes are well remembered for their stimulating early morning bird walks, when Prof. Bartsch was as likely to call attention to a spring flower or salamander as to a bird. He occasionally also took his students on long field trips to the Eastern Shore. Even before his formal teaching career began, he had been asked by a prominent local attorney and amateur naturalist, a Mr. Doubleday, to take over a biology class the latter had organized for the young people of the city. This class promptly became known as the "Bartsch Botanical Club." Barnes (1952, p. 223) features a picture of this club on one of its outings in 1898.

Bartsch's enthusiastic immersion in teaching during those early years surely was responsible in part for stimulating his serious botanical activities. Judging by the large number of duplicates among his collections, it seems very likely that his students on those bird walks and his "Club" members or similar groups assisted in his collecting of plants. Friends do not recall that he was one to carry a collecting vasculum and suggest that he probably relied on student assistants many times. At any rate, his herbarium bore signs of having been used pedagogically at times, because some miscellaneous teaching notes, pitched to a rather amateur level, were found scattered among the specimens.

His plant collecting seems to have stopped abruptly in 1917. It was resumed again in 1946, after his retirement from active curating at the Smithsonian, but this time restricted to his own estate, "Lebanon," at Lorton, Virginia. This long interruption was probably due to the press of official duties and research which were relieved at retirement. At the same time, he undoubtedly lost considerable interest in the local flora after the appearance of the up-to-date and seemingly definitive 1919 *Flora of the District of Columbia*.

The purchase of "Lebanon" in 1942, a 458-acre estate on Pohick Bay along the Potomac River some 25 miles south of Washington, opened the second and final phase in Bartsch's botanical activities. This very old estate had a rich and diversified native flora, including a number of uncommon plants such as mistletoe (*Phoradendron flavescens* [Pursh] Nutt.), adder's-tongue fern (*Ophioglossum vulgatum* L.), and a variety of orchids. After Bartsch retired to Lebanon in 1946, he, constantly aided by his second wife, Dr. Parker, devoted much time during his remaining

years to developing the wildflower gardens and wildlife sanctuary that they had begun to create in 1942. Bartsch's experience with native flower gardening dated back to his place on Belmont Avenue in Washington, where over the years he had built up a remarkable collection of native ferns, orchids, bog plants, and many other kinds, hauling in appropriate soils and constructing artificial bogs and fern pits. At Lebanon, he tried to do on a grand scale what he had done in miniature at Belmont. Together, the Bartsches took many field trips throughout the eastern states, ranging from the Gaspé Peninsula, Québec, to the Florida Peninsula and from the Atlantic Coast to the Mississippi Delta, to collect specialties for their wildflower gardens. Primarily, the quest was for living plants and few if any herbarium specimens were prepared on these trips. His last herbarium collections were made on the Lebanon acres in 1946 with the aim, presumably, of documenting the complete native flora on the estate. Considering his extensive efforts at introducing exotic species, first to Belmont and later to Lebanon, caution must be exercised in evaluating unusual records from these areas as well as from his herbarium.

Bartsch was clearly knowledgeable about native species because he tried systematically to build up complete living collections of various plant groups and searched out botanically interesting endemic species. Three trips were made to the mountains of North Carolina before he finally succeeded in locating a population of the rare Piedmont-Blue Ridge endemic, *Shortia galacifolia* T. & G. He had a natural bog on his estate and created others, taking special interest in transplanting bog plants such as Venus flytrap, sundews, and virtually all species of the pitcher-plant genus *Sarracenia*. He and his wife created a special fern garden in a natural ravine on the premises, which became known locally as "Fern Valley." According to Barnes (1954), he successfully grew "all" eastern American species and some exotic ferns from Iceland and England in this Valley. Some of the more interesting species were: *Polypodium polypodioides* (L.) Watt (from Louisiana), *Polystichum braunii* (Spencer) Fée (from Vermont), *Schizaea pusilla* Pursh (from New Jersey pine barrens), and *Woodsia ilvensis* (L.) R. Br. (from Gaspé). His fern interest was reflected in his herbarium by the very disproportionate number of fern specimens, as already hinted. Altogether, the list of exotic species introduced to Lebanon, whether ferns or flowering plants, is impressive. We should add that many of these species were transplanted from Belmont, and the record is not too clear on when all the plant-hunting excursions were made.

The activities of the Bartsches on their estate at Lorton attracted wide local attention, and many scout and other youth and adult groups made regular pilgrimages to Lebanon to see the gardens and wildlife. The Audubon Naturalist Society and the Botanical Society of Washington, in which Bartsch took a nominal interest through the years, held annual picnics at Lebanon for a time after 1946. His widow still resides there.

The Bartsch Herbarium was in a rather poor state of preservation when it came to the Smithsonian. It had been kept in the basement of his home and had suffered great damage from water, rodents, insects, and fungi, even though the specimens had been stored in standard metal herbarium boxes ("Cambridge" boxes). At first there was serious question whether anything could be salvaged and in the end only about 1,000 specimens of the original 5,000 have proved sufficiently well preserved and documented to warrant being saved. While this represents a drastically reduced segment of his original herbarium, it nevertheless still represents a very substantial addition to the U. S. National Herbarium and especially to the District Herbarium.

The specimens in the Bartsch Herbarium were nearly all unmounted and kept on single or between folded sheets of news stock. The vast majority were unnamed and those that were named had to be verified, because his specific determinations were not very reliable. Only a minority of the collection had standard herbarium labels, most of which had deteriorated seriously, and it was necessary to prepare permanent labels for nearly all of the 1,000 specimens salvaged. Apparently, Bartsch was somewhat more methodical about his plant collecting during the first few years of his activity and again in 1946, at which times he wrote the data on standard, printed labels. During most of his collecting years, however, the data were written on the pressing papers themselves or on temporary tags. On the whole, he recorded essential data, though nothing more, but we have had to discard a fair number of his collections for lack of data. In 1946, he numbered his Lebanon collections in pencil, and these numbers have dubious value. Previous local collections were not numbered, although his Iowa and expedition collections, as from the Philippines, were usually numbered. However, he had the habit of starting a new series from the number "1" each time he went on a new expedition.

It is hard to see how the bulk of Bartsch's herbarium, being unnamed and poorly labeled, could have been of any practical use to him. Moreover, the collection as a whole had no apparent organization that would have made quick access possible. Some specimens were grouped by species, genus, or family, and others by collecting locality. Just why Bartsch named so few of his plants is also hard to explain since he was reputed to know the local flora quite well. Perhaps he knew the plants so well that he didn't bother to name most of his own collections. The most likely answer seems to be that Bartsch was always and everywhere a compulsive collector whose ambitions early in his professional life also embraced plants. For the most part he knew the genera on sight and was not concerned with the species, except in special interest groups. Lacking time and incentive to study and publish on his plant collections, he was not deterred, nonetheless, from continuing to collect for many years, and the resulting herbarium grew in something less than orderly fashion. In fact, many of his specimens

seemed to have been preserved in their original pressed state, never having been examined again after collecting.

In all candor, we must report that the Bartsch Herbarium has proved less significant than we had originally anticipated. Even in the context of the times, when knowledge of the local flora was summarized by Ward's *Guide*, Bartsch's collections are not especially unusual. For the most part they represent weeds or cosmopolitan species, collected in well-known local stations even then. He made few if any truly noteworthy finds. The half-dozen or so species in his collection that were not recorded in Ward or in the appropriate supplements all belong to taxonomically difficult groups and are debatable additions to the flora as full species. In short, his collecting bears all the signs of incidental collecting—*i.e.*, collecting that one might conveniently do together with some more preoccupying mission (*e.g.*, bird-watching or bird-banding). These facts take issue with the statements of some intimates who remember him as a man with a sharp eye for unusual plants. It might be added further that he tended to collect the showy plants; grasses, for instance, are very poorly represented in his collection.

It is indeed unfortunate that Bartsch did not make his large collection available to Hitchcock and Standley when they were writing their *Flora*. At that time the specimens would still have been in a good state of preservation and could have augmented existing collections at the National Herbarium much more significantly than at present, even though, as already mentioned, they would not have contributed additional species. The great surprise is that Bartsch seemingly did not participate in their effort, which was spread widely among many local botanists, although he was already a prominent figure in the National Museum and must have known both Hitchcock and Standley very well. For their part, they could hardly have appreciated the size of Bartsch's personal herbarium even at that time, or surely they would have made some effort to see and cite it. Perhaps Bartsch felt that his intense efforts at the turn of the century gave him priority over other efforts. Maybe he even tried privately to rival the Hitchcock-Standley effort. His burst of collecting in 1917, almost on the eve of the appearance of their work, followed by his apparent loss of interest in the local flora afterward, both suggest the possibility of a race privately run and lost. In fairness, however, we must add that Standley, who wrote most of the *Flora*, always worked with the collections at hand and seldom went out of his way to borrow specimens. If Bartsch's herbarium was not easily accessible, as the case seemed to be, Standley would hardly have wasted his time trying to consult it. At any rate, Bartsch himself apparently never published a new record, nor is he credited by anyone of the time for having obtained new records (*cf.* bibliography).

Today, Bartsch's collections are valuable chiefly for the important information they add to our historical knowledge of the local flora, by

giving us a better picture of the native and introduced flora around the turn of the century when natural areas were more abundant within and around the city. Bartsch collected more than 350 species of local vascular plants, distributed in nearly 200 genera and 75 families. New localities were recorded for many species, and the size of his collection, as salvaged, makes his herbarium important for this reason alone. Withal, it must be emphasized that the Bartsch Collection constitutes a very worthwhile addition to the District Herbarium of the U. S. National Herbarium. Its importance will be realized more fully if and when a new effort is made to revise the 1919 *Flora*.

COLLECTING LOCALITIES

The main list includes all localities in the Washington-Baltimore area as defined for Hermann's *Checklist* (1946), but localities from outside the *immediate* vicinity of Washington (*cf.* Ward's map, 1881), *i.e.*, beyond a radius of 20–25 miles from the Capitol, are prefixed by an asterisk (*e.g.*, *South River, near Annapolis). Detailed locality annotations are given in this first list. In the other three lists, only the place-names are given, because Bartsch's data are still adequate for locating these collection sites, if one has reasonable maps at hand. The remaining explanation applies, therefore, only to the first list.

Bartsch's place-names are italicized and listed alphabetically. They are numbered consecutively to facilitate cross reference. If Bartsch used an incorrect or archaic spelling or more than one spelling, we adopted the correct modern spelling unless this was likely to be confusing, in which case both his spelling and the modern spelling are indicated. The state or political unit indicated by Bartsch is not given as part of the place-name except where it must be regarded as an integral part of his locality designation, because of the proximity of another political unit. Our locality annotations are based on old and recent maps of the U. S. Geological Survey and recent maps by Rand McNally and Goushá. Modern equivalents of old place-names are given when necessary, and we have indicated whether the locality belongs in the District of Columbia (D.C.), Maryland (Md.), or Virginia (Va.). The District localities are further specified as to the quadrant of the city they belong, according to standard practice within the city: Northwest (NW), Northeast (NE), Southwest (SW), and Southeast (SE). These quadrants are formed by North and South Capitol Streets, on the one hand, and East Capitol Street and the Mall, on the other hand.

In the strict sense, the City of Washington is confined to the District of Columbia, but the greater city includes surrounding parts of Maryland and Virginia. From the standpoint of the flora of the Washington area in general, it is rather academic whether one specifies the state in which Bartsch collected, especially since he himself did not always know this when he collected along the boundaries. However, for the benefit of those who may wish to study either the Virginia or the

Maryland flora, we have attempted to determine the correct state for each of his collections. Localities along the Potomac River present special problems in this respect, and it should be noted that all islands in the river belong either to Maryland or the District, as the case may be, because the Virginia state line hugs the Virginia shore of the river. In Virginia, Alexandria today constitutes an independent city, outside of county jurisdiction, but at the time when Bartsch was actively collecting, the eastern half of the present city and the whole of Arlington County together comprised the former Alexandria County. This point must be borne in mind when interpreting his collection data.

The dates given with each locality represent the years in which Bartsch collected at the locality in question.

The following abbreviations are used: D.C., Md., Va., NW, NE, SW, and SE, all explained above; Ave., Avenue; Co., County; I., Island; mi., mile; R., River; R.R., Railroad; St., Street.

Washington-Baltimore Area

1. *Agricultural Grounds*. Site of present South Building of U. S. Dept. of Agriculture, between 12th and 14th Sts., SW D.C. 1897.
2. *Anacostia*. SE D.C. Collections of 1900 from 440 Jefferson St., a street no longer shown on city maps. 1898, 1900.
3. *Aqueduct Bridge*. Former bridge over Potomac R. near site of present Key Bridge, connecting Georgetown, NW D.C., and Rosslyn, Arlington Co., Va. Collections made along old R.R. tracks south of bridge and on bluffs north of bridge on Virginia side. 1896, 1904.
4. *Asylum Farm, D.C.* Probably area east of Fox Ferry Point, which is called St. Elizabeth's Farm on some current city maps; Farm is mostly in Prince Georges Co., Md.; cf. no. 5. 1905.
5. *Asylum, Asylum for the Aged, Foxes Ferry, Md.* Formerly Home for Aged and Infirm, now District of Columbia Village, at Fox Ferry Point, east shore of Potomac R. just above Woodrow Wilson Bridge, along District-Maryland line; Village is in SW D.C., but adjoining Farm (cf. no. 4) is in Prince Georges Co. Collecting probably done throughout general region of Point, both in D.C. and Md. 1905.
6. *Aurora Heights*. Small, former community along Wilson Boulevard just southwest of Rosslyn, Arlington Co., Va.; no longer mapped. 1900, 1917.
7. **Bay Ridge*. Town just south of Annapolis, Anne Arundel Co., Md. 1896.
8. *Beltsville Bog*. One of now extinct Powder Mill Bogs near Beltsville, Prince Georges Co., Md. 1917.
9. *Benning's [Station]*. Benning, NE D.C. 1896, 1897.
10. *Black Pond*. Probably the Black Pond along the Potomac R. near mouth of Difficult Run, Fairfax Co., Va., but could have been

- the Black Pond above Great Falls, opposite Bealls I. (Trammel I.), Fairfax Co. (*cf.* McAtee 1918). 1917.
11. *Bladensburg Swamp*. Bladensburg, Prince Georges Co., Md. 1897.
 12. *Broad Water*. Wide area in Chesapeake and Ohio Canal east of Bear I., Potomac R., Montgomery Co., Md., presently called Widewater. 1897.
 13. *Burnt Mills*. On Northwest Branch of Anacostia R. at U. S. Highway 29, Montgomery Co., Md. 1913, 1917.
 14. *Cabin John Bridge*. Bridge on MacArthur Boulevard that crosses Cabin John Creek near its mouth; *cf.* no. 15. 1896.
 15. *Cabin John Run*. Cabin John Creek³ on recent maps; tributary of Potomac R., arising near Rockville and emptying near Cabin John, Montgomery Co., Md. 1896.
 16. *Cameron Run*.³ Tributary of Potomac R., which becomes Hunting Creek in its lower tidal portion along the boundary between the city of Alexandria and Fairfax Co., Va. 1897.
 17. *Chain Bridge*. Crosses Potomac R. below Little Falls and connects NW D.C. with Arlington Co., Va. Collections from bluffs north of bridge in Virginia and from river flats south of bridge in NW D.C. 1896, 1897, 1903.
 18. *Chesapeake Junction*. Station along defunct Chesapeake Beach R.R. in extreme east corner of D.C. (NE), adjacent to Seat Pleasant, Prince Georges Co., Md.; still shown on some modern maps. 1903, 1904, 1905.
 19. *Chevy Chase Lake*. Site near intersection of Connecticut Ave. and Chevy Chase Lake Drive, Montgomery Co., Md.; all filled in at present except for small pond. Collections from 0.5 mi. east of lake. 1905.
 20. **Colonial Beach*. Town along lower Potomac R., Westmoreland Co., Va. 1899.
 21. *Conduit Road GN.-Cabin John*. Conduit Road from Georgetown to Cabin John, NW D.C. and Montgomery Co., Md.; modern name for road is MacArthur Boulevard. 1896.
 22. *Conduit Road N. C. John*. Conduit Road north of Cabin John, Montgomery Co., Md.; *cf.* no. 21. 1896.
 23. *Congress Heights*. Vicinity of intersection of Nichols Ave. and Alabama Ave., SE D.C. Some collections made along Baltimore and Ohio R.R. tracks between Anacostia and Congress Heights, SE-SW D.C. 1899, 1900.
 24. *Coral*. Presumably near Wiehle and perhaps also a station on former Washington and Old Dominion R.R., but not shown on old maps; *cf.* nos. 25, 65. Collections from Mrs. Hough's Farm. 1905.
 25. *Coral-Wiehle*. This may have been a stretch along now defunct

³ "In local usage the tidal portion of tributaries of the Potomac below Washington is typically called the creek, while the upper portion is called the run: Thus, Hunting Creek, Cameron Run, Occoquan Creek, Bull Run. Variations in this practice occur [*e.g.*, Roaches Run, which is a tidal creek], especially near Washington" (McAtee 1918, p. 111).

- Washington and Old Dominion R.R. which passed through Wiehle; *cf.* nos. 24, 65. 1905.
26. *Difficult Run*. Tributary of Potomac R., emptying south of Bear I., Fairfax Co., Va. 1897, 1904, 1905.
 27. *Eastern Branch*. Eastern Branch of Potomac R., now called Anacostia R. On older maps like Ward's (1881), used by Bartsch, E. Branch also included what was later called Northeast Branch and Indian Creek, which arises in northern Prince Georges Co., Md., near Muirkirk. Collections in 1896 could have come from anywhere between Muirkirk and the mouth of the river at Hains Point, SW D.C. Collections in 1897 came from near Reform School, now National Training School for Boys, NE D.C., and were probably collected in marshy areas along river near present Kenilworth Aquatic Gardens; some could have come from adjacent Prince Georges Co., Md. 1896, 1897.
 28. *Edmonston Ferry*. According to Bartsch's data, 5 mi. above Great Falls on the Potomac R., Fairfax Co., Va.; not located on available maps. 1904, 1917.
 29. *Falls Church*. Independent City with Fairfax Co., Va. 1896, 1897, 1898, 1903.
 30. *First Reservoir, Md.* Probably Receiving Reservoir, *cf.* no. 50. 1892.
 31. *Fort Myer*. Military Reserve, surrounding Arlington National Cemetery, Arlington Co., Va. 1896.
 32. *Four-Mile Run*. Stream forming dividing line between Arlington Co. and city of Alexandria, Va., which empties into Potomac R. just below present Washington National Airport. 1896, 1897, 1898, 1911, 1917.
 33. *Great Falls*. The Great Falls of the Potomac R. above Washington. Collections from Maryland side, Montgomery Co.: 1896; from Virginia side, Fairfax Co.: 1897, 1900, 1903, 1905, 1906, 1907, 1910, 1914.
 34. *High Island*. Island in Potomac R. just above District line in Montgomery Co., Md., although sometimes said to be in D.C. 1896, 1897.
 35. *Jackson City*. Former Jackson City Station, referred to by Ward (1881) as Jackson City, near present 14th St. bridges, Arlington Co., Va. 1896, 1897.
 36. *Jackson Island*. Island in Potomac R., Montgomery Co., Md.; also shown on some maps (*cf.* McAtee 1918) as Scott I. or Turkey I. (*cf.* U.S.G.S. topographic maps); opposite Herzog I., which is also sometimes called Turkey I. 1904.
 37. *Kenilworth*. NE D.C. 1904.
 38. *Laurel*. Prince Georges Co., Md. 1903.
 39. *Lebanon*. Name of Bartsch Estate on Pohick Bay, Potomac R. below Washington, near Lorton, Fairfax Co., Va. 1946.
 40. *Lorton*. *Cf.* no. 39. Collections from a sphagnum bog. 1917.
 41. *Military Road, Va.* Locality given as 0.5 mi. beyond Long Bridge,

which stood near present 14th St. bridges, connecting D.C. and Va. Bartsch's locality was most likely in Arlington Co., Va., because he specified "Va.," but there is presently no Military Road here. Presumably, this was not the present Military Road in NW D.C. 1917.

42. *Millers Swamp*. Locality given as 2 mi. north of Agricultural College (Maryland State Agric. College), now a part of University of Maryland, vicinity of College Park, Prince Georges Co., Md.; swamp is now extinct. 1903.
43. *Mount Vernon*. Along Potomac R. below Washington, Fairfax Co., Va. 1897.
44. *Occoquan*. Near Potomac R. below Washington, Prince William Co., Va. 1914, 1917.
45. *Old Naval Observatory*. Apparently the former National or Steele Observatory on the Mall near the Washington Monument, NW D.C. 1896.
46. *Patuxent River*. Forms boundary between Prince Georges and Anne Arundel Cos., Md., emptying into Chesapeake Bay about 55 mi. southeast of Washington. Collections came from Hills Bridge, which crosses river just east of Upper Marlboro, and from "pine woods on north bank," presumably near Hills Bridge because collections were made here on same day. 1917.
47. *Plummers Island*. Variously spelled Plummer, Plummer's, and Plummers I. Island in Potomac R. above Washington. Collections from "opposite" Plummers I., which undoubtedly meant Virginia shore of Potomac R., Fairfax Co., Va., because some collections actually were specified as from the Virginia shore "opposite" Plummers I. 1904, 1913, 1917.
48. *Potomac Bluffs, Va.* Bluffs between Stubblefield Falls and Scott(s) Run, which enters Potomac R. above Stubblefield Falls and not far above Plummers I., Fairfax Co., Va. 1904.
49. *Potomac Flats*. Low marshy and sandy flats in general region of Hains Point, SW D.C.; east shore of Anacostia R. near mouth, SW D.C.; and Alexander I., Va., near 14th St. bridges. Bartsch collections apparently came only from SW D.C. 1896.
50. *Receiving Reservoir, D.C.* Now called Dalecarlia Reservoir, lying partly in NW D.C. and partly in Montgomery Co., Md., near Potomac R. 1896.
51. *Reform School*. Cf. no. 27.
52. *Riverdale*. Prince Georges Co., Md. Collections from Cross Roads, presumably an old highway junction. 1905.
53. *Roaches Run*. Inlet of Potomac R. on Virginia shore just opposite mouth of Anacostia R., north edge of present Washington National Airport, Arlington Co., Va. 1896.
54. *Rock Creek*. Tributary of Potomac R. arising just east of Rockville, Montgomery Co., Md., flowing southward through NW D.C., and

- emptying below Georgetown. Collections from D.C. and Md. 1896, 1899.
55. *Soapstone Creek, Va.* Locality probably not in Virginia as given on labels, but in NW D.C.: Small tributary of the Broad Branch of Rock Creek (*cf.* no. 54); enters Broad Br. near the latter's mouth just north of National Zoological Park. 1904, 1905.
 56. *Soldiers Home.* U. S. Soldiers Home. Large park-like grounds lie partly in NE, partly in NW D.C. 1897.
 57. *Soldiers Home Reservoir.* Now called McMillan Park Reservoir or New Reservoir; within grounds of Soldiers Home (*cf.* no. 56). NW D.C. 1898.
 58. *South East Corner, D.C.* Presumably southeasternmost part of Washington, SE D.C. 1917.
 59. **South River.* Large inlet of Chesapeake Bay south of Annapolis, Anne Arundel Co., Md. 1917.
 60. *Springvale.* Small village in northwest Fairfax Co., Va., west of Great Falls. Collections from "O'Connor's Farm." 1904, 1914.
 61. **Sugar Loaf Mountain.* South of Frederick, Frederick Co., Md. 1897.
 62. *Suitland Bog.* Just north of Suitland Parkway near Morningside, Prince Georges Co., Md. 1917.
 63. *Terra Cotta.* South Dakota Ave. near intersection with Missouri Ave. and Riggs Road, NE D.C. 1905.
 64. *Vanderwerken Station.* Old station along former Washington and Old Dominion R.R., Great Falls Branch, at present-day intersection of Old Dominion Drive and Little Falls Road, Arlington Co., Va. Collections from "Dittmars Farm." 1914.
 65. *Wiehle.* Station on former Washington and Old Dominion R.R., known as Washington and Ohio Railroad before turn of century (*cf.* Ward's map, 1881), at place now called Sunset Hills, just east of Herndon, northwest Fairfax Co., Va.; (*cf.* also nos. 24, 25). 1905.
 66. *Woodley Park.* Along Connecticut Ave. just west of National Zoological Park, NW D.C. 1904.

Allegheny Mountains

Bartsch's collections from western Augusta County, Virginia, were made in the southern section of the Shenandoah Mountains, which form a part of the main Allegheny Range along the Virginia-West Virginia border. The localities and years of collection are as follows: Buck Hill, 1906; Calfpasture R. near West Augusta, 1906; Jennings Branch, 1906; Jennings Gap, 1906; Little North Mountain, 1906; Mt. Solon, 1906; Stokesville, 1898, 1906; and Stribling Springs, 1898, 1906.

Blue Ridge

The Blue Ridge collections were made on the mountains and in the foothills at the following localities, listed by county, in northwestern

Virginia: *Clarke Co.*: Blue Ball Mountain, 1913; Hanging Rock, 1911, 1913; Lovers' Leap, 1911; Tilthammer Mill, 1913; Wild Cat Den, 1911, 1913. *Fauquier Co.*: Delaplane to Paris, 1913; Marshall, 1913; Paris, 1911, 1912, 1913. *Loudon Co.*: Airmont near Round Hill, 1905. *Page Co.*: Stony Man Mountain, 1913.

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